

## WHAT IS CLAIMED IS:

## 1. An image processing method comprising:

an input step of inputting an image processing apparatus control code;

5 a translation step of translating the image processing apparatus control code into a drawing object;

a judging step of judging whether rendering of the drawing object is to be performed in an RGB format  
10 or YMCK format;

a first rendering step of rendering a drawing object in one image, which has been obtained by translation at said translation step, in the RGB format, thereby creating an RGB image;

15 a second rendering step of rendering another drawing object in an image the same as said one image, which has been obtained by translation at said translation step, in the YMCK format, thereby creating a YMCK image;

20 a color conversion step of color-converting the RGB image to a YMCK image; and

an output step of outputting the YMCK image created by said second rendering step and the YMCK image obtained by the color conversion at said color  
25 conversion step.

2. The method according to claim 1, wherein said input step inputs an image processing apparatus

control code that employs YMC or color space information in a complementary-color relationship with YMC.

3. The method according to claim 1, wherein said  
5 judging step includes:

a grouping step of dividing a plurality of drawing objects into one or a plurality group areas; and

an attribute deciding step of dividing the group  
10 area into a group in which rendering is performed in the RGB format or a group in which rendering is performed in the YMCK format.

4. The method according to claim 3, wherein said grouping step includes:

15 a first grouping step of grouping one or a plurality of drawing objects as one group area if a plurality of drawing objects exist;

a determination step of determining whether an ungrouped drawing object exists;

20 if an ungrouped drawing object exists, detecting whether said drawing object and the group area overlap;

if said drawing object and the group area do not overlap, a second grouping step of making said drawing  
25 object a new group area; and

if said drawing object and the group area overlap, an updating step of incorporating the area of said

drawing object in the group area to thereby update the group area.

5. The method according to claim 3, wherein said attribute deciding step includes:

5       a discriminating step of discriminating extent of a color difference that is produced by subjecting the group area to YMCK rendering;

          if the color difference is outside an allowable range, a first attribute deciding step of adopting the group area as a group in which rendering is performed in the RGB format; and

          if the color difference is within the allowable range, a second attribute deciding step of adopting the group area as a group in which rendering is performed in the YMCK format.

6. The method according to claim 5, wherein said attribute deciding step includes:

          a third attribute deciding step of adopting the group area as a group in which rendering is performed in the YMCK format if a drawing object to be rendered in the RGB format does not exist in the group area;

          a necessity determining step of determining whether it is necessary to render the group area based upon the RGB format if a drawing object to be rendered in the RGB format exists in the group area;

          a fourth attribute deciding step of adopting the group area as an area in which rendering is performed

in the RGB format if it is determined at said necessity determining step that it is necessary to render the group area in the RGB format; and

if it is determined at said necessity determining  
5 step that it is unnecessary to render the group area in the RGB format, a fifth attribute deciding step of adopting a drawing object that does not require rendering in the RGB mode in the group area as a new group area in which rendering is performed in the YMCK  
10 format, and adopting the remaining area as a group area in which rendering is performed in the RGB format.

7. An image processing apparatus comprising: ✓

input means for inputting an image processing apparatus control code;

15 translation means for translating the image processing apparatus control code into a drawing object;

judging means for judging whether rendering of a drawing object is to be performed in an RGB format or  
20 YMCK format;

first rendering means for rendering a drawing object in one image, which has been obtained by translation by said translation means, in the RGB format, thereby creating an RGB image;

25 second rendering means for rendering another drawing object in an image the same as said one image, which has been obtained by translation by said

translation means, in the YMCK format, thereby  
creating a YMCK image;

color conversion means for color-converting the  
RGB image to a YMCK image; and

5        output means for outputting the YMCK image  
created by said second rendering means and the YMCK  
image obtained by the color conversion by said color  
conversion means.

8.    The apparatus according to claim 7, wherein said  
10    input means inputs an image processing apparatus  
control code that employs YMC or color space  
information in a complementary-color relationship with  
YMC.

9.    The apparatus according to claim 7, wherein said  
15    judging means includes:

grouping means for dividing a plurality of  
drawing objects into one or a plurality group areas;  
and

attribute deciding means for dividing the group  
20    area into a group in which rendering is performed in  
the RGB format or a group in which rendering is  
performed in the YMCK format.

10.   The apparatus according to claim 9, wherein said  
grouping means includes:

25        first grouping means for grouping one or a  
plurality of drawing objects as one group area if a  
plurality of drawing objects exist;

determination means for determining whether an ungrouped drawing object exists;

detecting means which, if an ungrouped drawing object exists, is for detecting whether said drawing object and the group area overlap;

second grouping means which, if said drawing object and the group area do not overlap, is for making said drawing object a new group area; and

updating means which, if said drawing object and the group area overlap, is for incorporating the area of said drawing object in the group area to thereby update the group area.

11. The apparatus according to claim 9, wherein said attribute deciding means includes:

discriminating means for discriminating extent of a color difference that is produced by subjecting the group area to YMCK rendering;

first attribute deciding means which, if the color difference is outside an allowable range, is for adopting the group area as a group in which rendering is performed in the RGB format; and

second attribute deciding means which, if the color difference is within the allowable range, is for adopting the group area as a group in which rendering is performed in the YMCK format.

12. The apparatus according to claim 9, wherein said attribute deciding means includes:

third attribute deciding means for adopting the group area as a group in which rendering is performed in the YMCK format if a drawing object to be rendered in the RGB format does not exist in the group area;

5        necessity determining means for determining whether it is necessary to render the group area based upon the RGB format if a drawing object to be rendered in the RGB format exists in the group area;

fourth attribute deciding means for adopting the  
10    group area as an area in which rendering is performed in the RGB format if it is determined by said necessity determining means that it is necessary to render the group area in the RGB format; and

fifth attribute deciding means which, if it is  
15    determined by said necessity determining means that it is unnecessary to render the group area in the RGB format, is for adopting a drawing object that does not require rendering in the RGB mode in the group area as a new group area in which rendering is performed in  
20    the YMCK format, and adopting the remaining area as a group area in which rendering is performed in the RGB format.

13. A program for causing a computer to implement the following procedures:

25        an input procedure for inputting an image processing apparatus control code;

a translation procedure for translating the image processing apparatus control code into a drawing object;

a judging procedure for judging whether rendering  
5 of the drawing object is to be performed in an RGB format or YMCK format;

a first rendering procedure for rendering a drawing object in one image, which has been obtained by translation in said translation procedure, in the  
10 RGB format, thereby creating an RGB image;

a second rendering procedure for rendering another drawing object in an image the same as said one image, which has been obtained by translation in said translation procedure, in the YMCK format,  
15 thereby creating a YMCK image;

a color conversion procedure for color-converting the RGB image to a YMCK image; and

an output procedure for outputting the YMCK image created by said second rendering procedure and the  
20 YMCK image obtained by the color conversion in said color conversion procedure.

14. A computer-readable recording medium storing the program set forth in claim 13.